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JMCB, April 2003.

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Abstract

Since January 1994, many banks in the United States have initiated retail-deposit sweep programs which reduce statutory reserve requirements by re-labeling transaction deposits as money market deposit accounts. As a result, approximately half of aggregate transaction deposits are now excluded from M1. This re-labeling is invisible to customers and, hence, cannot affect their demand for transaction balances. Nevertheless, a recent article in this *Journal* explored the effect of this invisible re-labling on M1 demand. This note emphasizes that those results are spurious, and offers additional examples of measurement distortions due to retail deposit sweep activity.

In a recent issue of this *Journal*, Dutkowsky and Cynamon (2003) analyze the effect of retail-deposit sweep programs on demand for the Federal Reserve's M1 monetary aggregate. The authors conclude that a new monetary aggregate—M1S, equal to the sum of published M1 plus Federal Reserve estimates of the amounts of transaction deposits involved in retail-deposit sweep programs—displays better time-series behavior than published M1 alone.

It is my purpose in this note to emphasize that this conclusion *is the only sensible one*. *Retail-deposit sweep programs are only accounting changes: they do not affect the amounts of transaction deposits that banks' customers perceive themselves to own.*

Since January 1994, banks in the United States have widely adopted retail-deposit sweep programs to reduce their required reserves. In such programs, transaction deposits are re-labeled as money market deposit accounts. At larger banks, transaction deposits are subject to statutory reserves requirements as high as 10 percent, while MMDA deposits, under terms of the 1982 Garn-St. Germain Act, are subject to the zero-percent reserve requirement ratio applicable to savings deposits.[1] This account re-labeling is invisible to bank customers, as discussed by Anderson (1995, 2002) and Anderson and Rasche (2001). Behind the scenes, funds are "transferred" from the MMDA to the transaction account as necessary, subject to legal restrictions on the number of transfers that may be made each month.[2] The amount of swept deposits is not reported separately to the Federal Reserve but is included in the aggregate amounts of savings deposits reported to the

[1] The Garn-St.Germain Act created the money market deposit account and prohibits the Federal Reserve Board from classifying the account as a transaction account for reserve-requirement purposes.
[2] As of this writing, there are no restrictions on the number of transfers from the transaction deposit to the MMDA and a limit of six transfers per month from the MMDA to the transaction account (more than six transfers causes the MMDA to be subject to the same statutory reserve requirements as transaction deposits).

Federal Reserve. The amounts of retail-sweep program deposits are not included in the M1 monetary aggregate.

Except perhaps for an insert delivered with a monthly account statement or the fine-print in a deposit contract, retail-deposit sweep activity is invisible to bank customers. Since the customer perceives no change in the amount of transaction deposits that she owns, her behavior cannot be affected by operation of the retail-deposit sweep.

Dutkowsky and Cynamon's analysis concludes that the introduction of retail-deposit sweeps has not shifted the demand for M1S, that is, the sum of the Federal Reserve's published M1 aggregate plus the estimated amounts of transaction deposits relabeled by banks as MMDA for the calculation of statutory reserve requirements. An equivalent conclusion is that households and firms did not change their behavior in response to an event that they did not observe, an event that was invisible to them. The authors' rejection of their weak null hypothesis—that the demand for published M1, excluding retail-sweep deposits, is the same as the demand for an M1 aggregate [M1S] that includes all the transaction deposits perceived by households and firms—is the only sensible conclusion. Any other conclusion would be suspect.

It is important to understand that retail-deposit sweep activity has placed a wedge in published data between the balance sheets of households and firms, as seen by the households and firms, and the balance sheets of banks. Today, households (and firms) perceive themselves to own approximately *twice* as many transaction deposits in depository institutions as those same depository institutions report to the Federal Reserve (and the Federal Reserve includes in M1): During 2002, the amount of transaction

deposits included in M1 was approximately equal to the amount of transaction deposits estimated to be involved in retail-deposit sweep programs (see Figure 1).

Retail-deposit sweep programs—and the related distortions to published banking data—are the economic equivalent of households and banks maintaining "two sets of books" to foil the [reserve requirement] tax collector. The existence of multiple books, that is, of multiple financial balance sheets, causes difficulties for other analyses as well. Figure 2 shows the ratio of total bank vault cash (as published on the Board of Governors H.3 release) to two measures of transaction deposits. The first measure equals the amounts of transaction deposits included in M1, and the second is that amount plus the estimated amount of deposits involved in retail-deposit sweep programs. Excluding sweep programs, there is a mysterious 60 percent increase in the ratio of vault cash to transaction deposits between 1995 and 2002; including sweep programs, the ratio drifts downward slowly, likely due to innovations in cash management. Bankers, being neither naïve nor foolish, understand that the amounts of transactions deposits that households and firms perceive themselves to own at banks is approximately twice what the banks report to the Federal Reserve; prudently, the bankers maintain sufficient vault cash to service those customer balances.

The existence of two sets of books also affects the Federal Reserve's Flow of Funds accounts. These accounts show a precipitous drop in households' holdings of checkable deposits and currency, from $615 billion at the beginning of 1994 to $322 billion at the beginning of 2003.[3] The reason for the drop is clear from the discussion in

[3] Note that, in the Flow of Funds accounts, currency held by the household sector excludes U.S. currency held abroad (estimated foreign-held U.S. currency is shown separately as an asset of the rest-of-the-world sector). At the end of 2002, the Flow of Funds accounts showed an estimated $301 billion in currency held

the Board staff's Flow of Funds guidebook: the household sector is calculated as a residual from the deposit figures reported by depository institutions to the Board for reserve-requirement purposes.[4] If all households could be surveyed directly, they would reply that they hold approximately twice as many transaction deposits as shown in the Flow of Funds accounts. The effects in the Flow of Funds accounts are summarized in Figure 3, which shows the sum of currency and checkable deposits held by households and nonprofit organizations as shares of their total financial assets.[5] Including estimates of the amount of deposits involved in retail-deposit sweeps, the share (upper panel) is approximately 2 percent; excluding the amounts in retail sweeps results in mis-measuring (understating) the share by two-thirds. In the lower panel, including the amount of deposits in retail sweeps extends the 1952–1995 downward trend forward to later years; excluding amounts in retail-deposit sweeps causes a mysterious acceleration in the rate of decrease of the share. A similar measurement distortion is apparent in Figure 4, which shows the ratio of personal consumption expenditures to the household sector's holdings of currency plus checkable deposits. Excluding retail deposit sweeps, velocity displays an untenable increase after 1994, while including sweeps leaves velocity at approximately its previous value. This velocity pattern likely was an important factor in Dutkowsky and Cynamon's empirical tests rejecting published M1 in favor of M1S as a measure of a transaction monetary aggregate for the United States.

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abroad and $309.6 billion held outside banks by the private sector (including state and local government) in the United States.

[4] Board of Governors of the Federal Reserve System (2000), vol. 1, p. 183, and vol. 2, p. 725.

[5] In Figures 3 and 4, end-of-quarter figures have been averaged to approximate the period-average figures used in the Federal Reserve's monetary aggregates, and to correspond with quarterly personal consumption expenditures.

There are additional, alternative channels through which retail-deposit sweeps might affect money demand. It is possible that the expansion of retail-deposit sweep programs since 1995 has changed the demand for M1 by changing the opportunity cost of transaction deposits. Empirical studies suggest that the quantity of transaction deposits held by households and firms is sensitive to the deposits' opportunity cost, and market competition might have caused banks to use the marginal earnings from sweeps to temper charges for transaction deposits. Although this is a *movement along* rather than a *shift in* the demand curve, measurement errors in the opportunity cost might make it difficult for the econometrician to disentangle the two. Some support for this view was presented by Anderson (2002) who concludes, based on data from the Federal Reserve's annual survey of retail fees charged by depository institutions (see Hannon, 2002), that fees on retail accounts since 1995 have increased somewhat less than other prices as measured by the chain-price index for personal consumption expenditures.

Finally, it is important for researchers to understand the limitations of available retail-deposit sweep data. Depository institutions are not required to report to the Federal Reserve the amounts of deposits in retail-deposit sweep programs. Some depositories have voluntarily informed the Federal Reserve when they began retail sweep programs, while others have not. In other cases, Federal Reserve staff and computer software have detected large simultaneous changes in transaction and savings deposits, the signature of the beginning of a retail deposit sweep program. But, there is no continuing reporting requirement for the amount of deposits involved in retail sweep programs. Although many depository institutions are required to report their end-of-day deposit balances by type of account, they are not required to identify those saving deposits that have been

swept from retail transaction accounts. Absent such reporting, the extent of measurement error in available retail-deposit sweep program figures is unknown. Anderson and Rasche (2001) conclude, for data through the end of 1999, that their individual-bank estimates of amounts swept likely are quite accurate because individual-bank ratios of vault cash to total transaction deposits (including sweeps) differ little during the period after sweeping begins from values prior to sweeping. But their analysis considers only a panel of larger banks, and not the entire banking industry.

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Figure 1: Retail Sweeps and Measures of Transaction Deposits

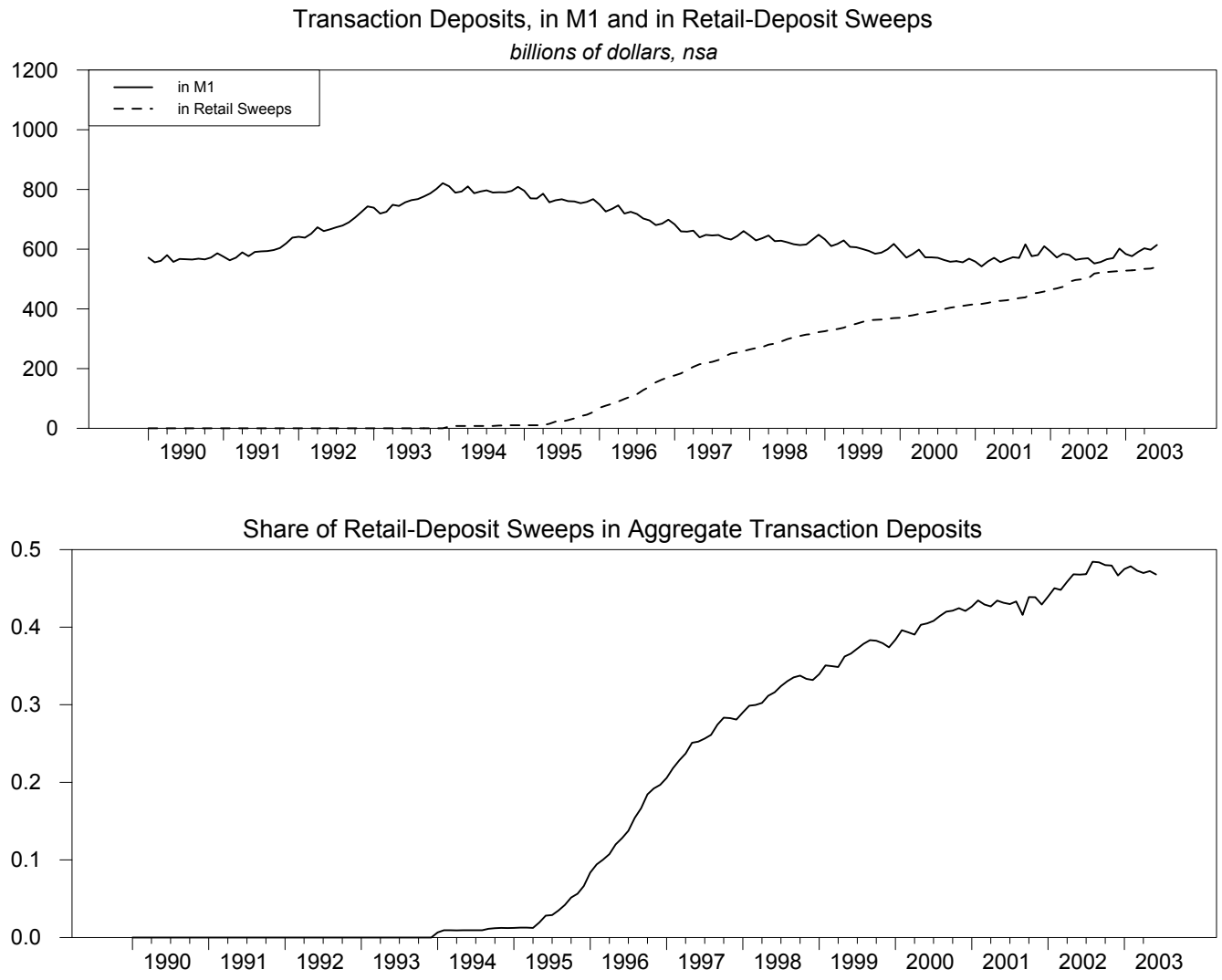

Figure 2: Retail Sweeps and Measures of Bank Vault Cash Ratios

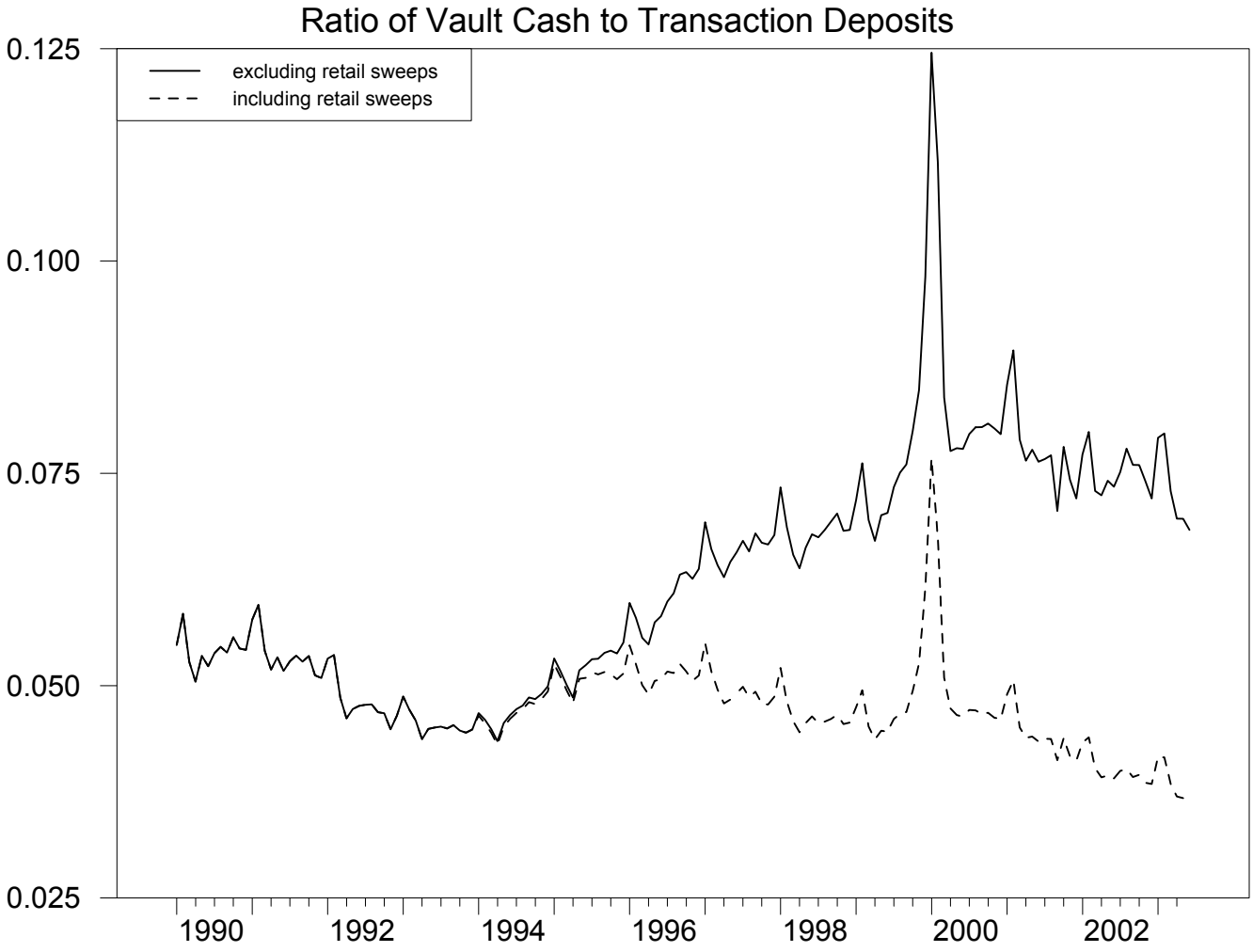

Figure 3: Retail Sweeps and Measures of Household Financial Assets

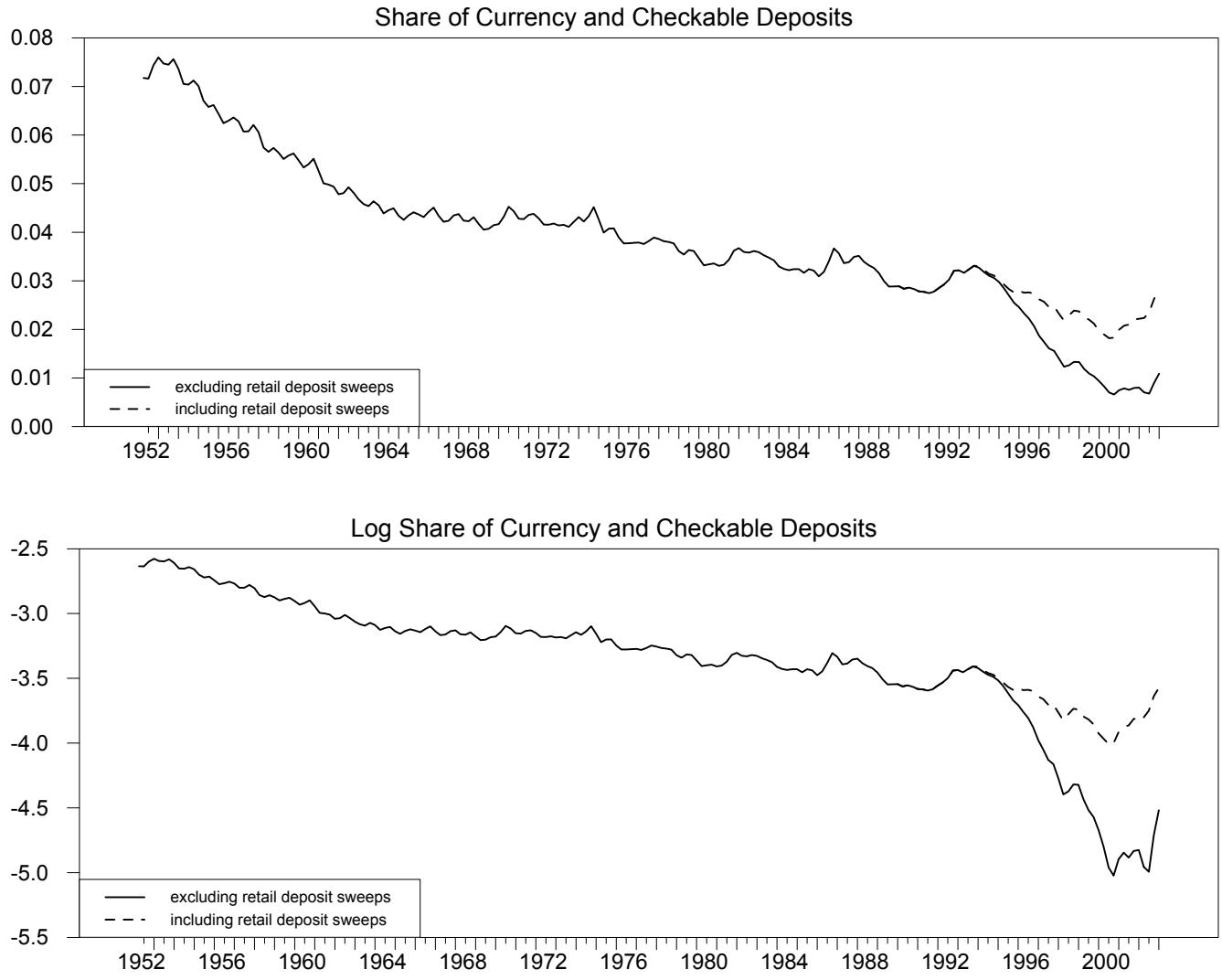

Figure 4: Retail Sweeps and Log of Household M1 Velocity